	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L1	64	hCOMP or (cartilage adj oligomeric adj matrix adj protein) or (thrombospondin-5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:30			0
2	BRS	L2	8539	trypsin same (cleav$3 or digest$3)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:27			0
3	BRS	L3	0	1 same 2	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:27			0
4	BRS	L4	3699	("50" adj kda) or ("55" adj kda) or ("62" adj kda) or ("67" adj kda)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:28			0
5	BRS	L5	0	1 same 4	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:28			0
6	BRS	L6	40927	elisa	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:52			0
7	BRS	L7	52	(cartilage adj oligomeric adj matrix adj protein) or (thrombospondin-5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:31			0
8	BRS	L8	22	7 same human	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:31			0
9	BRS	L9	34	8 or hCOMP	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:31			0
10	BRS	L10	0	9 same 6	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:31			0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
11	BRS	L11	123963	(biological adj matrix) or (treated adj cartilage) or (bone adj matrix) or collagen or hyaluronan or (fibrin adj gel) or (carbon adj fiber) or (polylactic adj acid)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:33			0
12	BRS	L12	16	1 same 11	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:48			0
13	BRS	L13	392	differentiation adj agent	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:49			0
14	BRS	L14	9008	(vitamin adj d3) or (retinoic adj acid)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:49			0
15	BRS	L15	56	13 same 14	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:49			0
16	BRS	L16	0	12 same 15	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:50			0
17	BRS	L17	6250	chondrocyte or (mesenchymal adj stem adj cell)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:51			0
18	BRS	L18	2	12 same 17	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:51			0
19	BRS	L19	5725	elisa same kit	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:53			0
20	BRS	L20	0	1 same 19	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:53			0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
21	BRS	L21	150	chen adj hui.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:54			0
22	BRS	L22	26	lawler adj john.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:54			0
23	BRS	L23	1	(21 or 22) and 1	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/13 09:54			0

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FILE 'MEDLINE' ENTERED AT 10:01:08 ON 13 OCT 2003

FILE 'CAPLUS' ENTERED AT 10:01:08 ON 13 OCT 2003
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FILE 'SCISEARCH' ENTERED AT 10:01:08 ON 13 OCT 2003
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FILE 'AGRICOLA' ENTERED AT 10:01:08 ON 13 OCT 2003

=> s hcomp or (cartilage oligomeric matrix protein) or (thrombospondin-5)
L1         1106 HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR (THROMBOSPONDI
                N-5)

=> s trypsin (p) (cleav? or digest?)
L2        55314 TRYPSIN (P) (CLEAV? OR DIGEST?)

=> s (50 kda) or (55 kda) or (62 kda) or (67 kda)
L3        35722 (50 KDA) OR (55 KDA) OR (62 KDA) OR (67 KDA)

=> s l2 (P) L3 (P) L1
L4            0 L2 (P) L3 (P) L1

=> S ELISA
L5       269998 ELISA

=> S L5 (P) KIT
L6         8257 L5 (P) KIT

=> s l1 (p) l6
L7            3 L1 (P) L6

=> duplicate remove l7
DUPLICATE PREFERENCE IS 'MEDLINE, BIOSIS, EMBASE'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L7
L8             1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)

=> d l8 1 ibib abs

L8   ANSWER 1 OF 1     MEDLINE on STN                    DUPLICATE 1
ACCESSION NUMBER:    2003359307     MEDLINE
DOCUMENT NUMBER:     22773835   PubMed ID: 12892252
TITLE:               Serum levels of cartilage oligomeric matrix protein. A
                     predicting factor and a valuable parameter for disease
                     management in rheumatoid arthritis.
AUTHOR:              Skoumal M; Kolarz G; Klingler A
CORPORATE SOURCE:    Institute for Rheumatology of the Kurstadt Baden, Austria..
                     martin.skoumal@a1.net
SOURCE:              SCANDINAVIAN JOURNAL OF RHEUMATOLOGY, (2003) 32 (3) 156-61.
                     Journal code: 0321213. ISSN: 0300-9742.
PUB. COUNTRY:        Norway
DOCUMENT TYPE:       (CLINICAL TRIAL)
                     Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         200308
ENTRY DATE:          Entered STN: 20030802
                     Last Updated on STN: 20030809
                     Entered Medline: 20030808
AB   OBJECTIVE: To examine whether   ***cartilage***     ***oligomeric***
       ***matrix***     ***protein***   (COMP) correlates with inflammation
     and/or joint destruction of patients with rheumatoid arthritis (RA) and to
     test COMP as predicting factor for the outcome of patients with
     established RA.  METHODS: Serum levels of COMP were measured in sera of 62
     patients, suffering from RA according to the ACR criteria and treated in
     intervals in our department, over a period of 5 years.  A commercially
     available sandwich--type   ***ELISA***  -  ***kit***   developed by AnaMar
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Medical AB, Sweden, was used. The results of serum COMP were compared with the Disease Activity Score (DAS), the Larsen Score, and clinical and laboratory parameters. RESULTS: We found a positive correlation between serum levels of COMP at baseline and deterioration of Larsen score even after 5 years ($p < 0.007$; $r = 0.34$). To confirm serum COMP as an independent predicting factor for patients with RA we looked at a subgroup of patients ($n = 17$) with elevated serum levels of COMP (mean 11,7 U/l) and low clinical prognostic factors. In this subgroup we also found a significant correlation with delta Larsen score ($p < 0.01$; $r = 0.59$) after 5 years. CONCLUSION: Serum levels of COMP is known to reflect increased cartilage turnover. The results indicate that serum COMP may be used as a prognostic marker of cartilage degradation in a patient group with established RA.

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=> d his

     (FILE 'HOME' ENTERED AT 10:00:47 ON 13 OCT 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
     10:01:08 ON 13 OCT 2003
L1          1106 S HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR (THROMBOSPO
L2         55314 S TRYPSIN (P) (CLEAV? OR DIGEST?)
L3         35722 S (50 KDA) OR (55 KDA) OR (62 KDA) OR (67 KDA)
L4             0 S L2 (P) L3 (P) L1
L5        269998 S ELISA
L6          8257 S L5 (P) KIT
L7             3 S L1 (P) L6
L8             1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)

=> s l1 (p) human
L9           292 L1 (P) HUMAN

=> s l9 (p) l6
L10            0 L9 (P) L6

=> s (biological matrix) or (treated cartilage) or (bone matrix) or collagen or hyaluronan or (fib
MISSING OPERATOR GEL) OE
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s (biological matrix) or (treated cartilage) or (bone matrix) or collagen or hyaluronan or (fib
L11       515579 (BIOLOGICAL MATRIX) OR (TREATED CARTILAGE) OR (BONE MATRIX) OR
                 COLLAGEN OR HYALURONAN OR (FIBRIN GEL) OR (CARBON FIBER) OR
                 (POLYLACTIC ACID)

=> s l1 (p) l11
L12          249 L1 (P) L11

=> s l12 (p) composition
L13           11 L12 (P) COMPOSITION

=> duplicate remove l13
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L13
L14            4 DUPLICATE REMOVE L13 (7 DUPLICATES REMOVED)

=> d l14 1-4 ibib abs

L14  ANSWER 1 OF 4     MEDLINE on STN                    DUPLICATE 1
ACCESSION NUMBER:    2001011600     MEDLINE
DOCUMENT NUMBER:     20385047   PubMed ID: 10924396
TITLE:               Differences in the concentration of various synovial fluid
                     constituents between the distal interphalangeal joint, the
                     metacarpophalangeal joint and the navicular bursa in normal
                     horses.
AUTHOR:              Viitanen M; Bird J; Maisi P; Smith R; Tulamo R M; May S
CORPORATE SOURCE:    Farm Animal and Equine Medicine and Surgery, Royal
                     Veterinary College, University of London, UK.
SOURCE:              RESEARCH IN VETERINARY SCIENCE, (2000 Aug) 69 (1) 63-7.
                     Journal code: 0401300. ISSN: 0034-5288.
PUB. COUNTRY:        ENGLAND: United Kingdom
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         200010
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ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001023

AB As a prerequisite for the identification of navicular disease markers, the concentrations of ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP), total glycosaminoglycans (GAG), ***hyaluronan*** , metalloproteinases (MMP) 2 and 9 and total protein were measured in synovial fluid samples obtained from the distal interphalangeal joint (DIP), the metacarpophalangeal joint (MCP) and the navicular bursa of 24 horses. Mean GAG, COMP and total protein levels were significantly higher in the DIP joint and in the navicular bursa compared to the MCP joint. ***Hyaluronan*** content was lower. MMP -2 activity was present in all fluids measured and had similar levels in different joints. MMP -9 was present in 42 per cent of MCP joint samples and 58 per cent of DIP joint samples and of navicular bursal samples. In relation to the constituents measured, the ***composition*** of navicular bursal fluid was similar to the articular synovial fluids, in particular that obtained from the DIP joint. Correlation between the constituents of DIP joint fluid and navicular bursal fluid obtained from the same legs was statistically significant for all the parameters measured.

L14 ANSWER 2 OF 4 MEDLINE on STN
ACCESSION NUMBER: 2000124477 MEDLINE
DOCUMENT NUMBER: 20124477 PubMed ID: 10659252
TITLE: Should equine athletes commence training during skeletal development?: changes in tendon matrix associated with development, ageing, function and exercise.
AUTHOR: Smith R K; Birch H; Patterson-Kane J; Firth E C; Williams L; Cherdchutham W; van Weeren W R; Goodship A E
CORPORATE SOURCE: Royal Veterinary College, Hatfield, Herts, UK.
SOURCE: EQUINE VETERINARY JOURNAL. SUPPLEMENT, (1999 Jul) 30 201-9. Journal code: 9614088.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20000314
Last Updated on STN: 20000314
Entered Medline: 20000302

AB In human athletes, conditioning, training and competition are commenced before skeletal maturity. Yet in equine athletics, racing of young (age 2 years) horses remains contentious. Tendon injury persists as major causes of wastage in equine athletes. Minimising injury and associated welfare issues could involve a radical approach to the timing and implementation of conditioning and training. Tendons were examined from Thoroughbreds, Dutch Warmblood foals, working horses and also a group of wild horses to evaluate effects of age, function and exercise. Gross mechanical properties did not differ significantly with age or exercise, but showed a high variance within each group. Mechanical properties of tendon tissue showed significant differences as a function of age and location. The ***collagen*** fibril crimp angle and length showed a regional reduction in the central core with exercise and age, with a synergistic effect. Regional differences in ***collagen*** fibril diameter were seen in long-term exercised older horses, but not in short-term exercised, or younger, horses. The higher proportion of small fibrils in the central region of the long-term exercised horses did not correlate with new ***collagen*** formation and therefore appear to result from disassembly of the larger diameter fibrils. Fibril diameter distributions were influenced by exercise regimens in the growing foal. Changes in molecular ***composition*** occurred in longer-term exercise and older horses, in the centre of the tendon, with higher levels of type III ***collagen*** and changes in glycosaminoglycan (GAG) content. ***Cartilage*** ***Oligomeric*** ***Matrix*** ***Protein*** (COMP) levels also appear to be modulated by age, function and superimposition of exercise. These changes were all exacerbated with age and exercise, suggesting appropriate exercise in young horses may lead to a lower incidence of injury than in older horses. An hypothesis is advanced that immature tendon can respond to exercise while mature tendon has limited, if any, ability to do so. These findings support potentially controversial earlier conditioning and racing of younger, rather than older, equine athletes.

L14 ANSWER 3 OF 4 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 96195288 MEDLINE
DOCUMENT NUMBER: 96195288 PubMed ID: 8619919
TITLE: Predictors of joint damage in rheumatoid arthritis.

AUTHOR: Wollheim F A
CORPORATE SOURCE: Department of Rheumatology, Lund University Hospital, Sweden.
SOURCE: APMIS, (1996 Feb) 104 (2) 81-93. Ref: 103
Journal code: 8803400. ISSN: 0903-4641.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199606
ENTRY DATE: Entered STN: 19960627
Last Updated on STN: 19980206
Entered Medline: 19960614

AB Rheumatoid arthritis (RA) is the dominant form of destructive chronic arthritis with the potential to cause substantial disability and permanent functional impairment. The final extent and progression rate with time, however, varies markedly. In order to study effects of intervention and to support early aggressive and atoxic therapy in selected cases, predictive disease markers are needed. Recent advances regarding joint tissue ***composition*** and pathophysiology have defined a number of biological marker candidates which need to be explored for possible prognostic information. Some markers are characteristic for RA, such as rheumatoid factors and certain autoantibodies, which although they are more prevalent among patients with aggressive disease are not sensitive as predictors in early disease. Genetic susceptibility markers have been claimed to be good predictors of persisting arthritis in early synovitis clinics, but their role as severity markers in established disease is limited. Unspecific markers of inflammation, notably ESR or CRP when persistently elevated, are useful to monitor disease course and newer markers need to document their superiority over these. Another group of markers are attractive because of enriched or exclusive occurrence in joint tissue, and altered metabolism in joint disease. Thus, ***collagen*** type III propeptides, hyaluronates, and neopterin originating in the synovium could be useful, and, in particular, hyaluronate levels indeed do provide some predictive information. Highly tissue-specific cartilage metabolites include aggrecan fragments, ***collagen*** II fragments, ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP) and the extraarticular cartilage matrix protein (CMP). When used alone or in combination in early disease some information can be obtained which may in the future facilitate prognostication. Bone metabolism can be monitored and there are different markers for synthesis and resorption. Meanwhile, whilst the new markers are essential research tools, their routine clinical usefulness remains to be proven.

L14 ANSWER 4 OF 4 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 93079835 MEDLINE
DOCUMENT NUMBER: 93079835 PubMed ID: 1448898
TITLE: Immunohistochemical localization of matrix proteins in the femoral joint cartilage of growing commercial pigs.
AUTHOR: Ekman S; Heinegard D
CORPORATE SOURCE: Department of Anatomy and Histology, Swedish University of Agricultural Sciences, Uppsala.
SOURCE: VETERINARY PATHOLOGY, (1992 Nov) 29 (6) 514-20.
Journal code: 0312020. ISSN: 0300-9858.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199212
ENTRY DATE: Entered STN: 19930129
Last Updated on STN: 19930129
Entered Medline: 19921228

AB The immunocytochemical localization of several matrix macromolecules, including ***collagen*** type II and proteoglycans, in the distal femoral articular-epiphyseal cartilage complex of 15 commercial pigs between the age of 6 and 18 weeks was studied. Early osteochondrotic lesions, i.e., chondronecrosis in the resting region of the growth cartilage, as well as extensions of necrotic cartilage into the subchondral bone, were present in all animals, except those 6 weeks old. A battery of antibodies were used for identification of macromolecules in the matrix at different stages of the disease. Chondrocyte involvement in the process could be studied by identifying the sequence of alterations in matrix macromolecules as the lesion developed. The immunostaining for aggrecan (large aggregating proteoglycans), ***cartilage***

oligomeric ***matrix*** ***protein*** , fibronectin, ***collagen*** type II, [redacted]romodulin, and biglycan was mo[redacted] prominent in the areas of chondronecrosis, extending into the subchondral bone, than in the normal resting region. This altered pattern of matrix macromolecules resembled that of the matrix of the proliferative chondrocytes and suggests that the chondrocyte maturation had stopped in the proliferative zone. The matrix in the areas of chondronecrosis in the resting region resembled that in the normal resting region. Thus the chondronecrosis appears to have preceded alterations of the matrix ***composition*** . The antibody reactivity pattern was, however, altered in the matrix of the clustered chondrocytes in areas of chondronecrosis. Staining in these regions suggested a more prominent appearance of fibronectin and ***collagen*** type II than in the normal matrix of the resting region. These changes are suggestive of attempt to repair.(ABSTRACT TRUNCATED AT 250 WORDS)

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     (FILE 'HOME' ENTERED AT 10:00:47 ON 13 OCT 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
     10:01:08 ON 13 OCT 2003
L1          1106 S HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR (THROMBOSPO
L2         55314 S TRYPSIN (P) (CLEAV? OR DIGEST?)
L3         35722 S (50 KDA) OR (55 KDA) OR (62 KDA) OR (67 KDA)
L4             0 S L2 (P) L3 (P) L1
L5        269998 S ELISA
L6          8257 S L5 (P) KIT
L7             3 S L1 (P) L6
L8             1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
L9           292 S L1 (P) HUMAN
L10            0 S L9 (P) L6
L11       515579 S (BIOLOGICAL MATRIX) OR (TREATED CARTILAGE) OR (BONE MATRIX) O
L12          249 S L1 (P) L11
L13           11 S L12 (P) COMPOSITION
L14            4 DUPLICATE REMOVE L13 (7 DUPLICATES REMOVED)

=> s l12 (p) (purified)
L15           10 L12 (P) (PURIFIED)

=> duplicate remove l15
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L15
L16            2 DUPLICATE REMOVE L15 (8 DUPLICATES REMOVED)

=> s l16 not l14
L17            2 L16 NOT L14

=> d l17 1-2 ibib abs

L17  ANSWER 1 OF 2     MEDLINE on STN
ACCESSION NUMBER:    2003324085      IN-PROCESS
DOCUMENT NUMBER:     22737940   PubMed ID: 12853037
TITLE:               Cleavage of cartilage oligomeric matrix protein
                     (thrombospondin-5) by matrix metalloproteinases and a
                     disintegrin and metalloproteinase with thrombospondin
                     motifs.
AUTHOR:              Dickinson Sally C; Vankemmelbeke Mireille N; Buttle David
                     J; Rosenberg Krisztina; Heinegard Dick; Hollander Anthony P
CORPORATE SOURCE:    Academic Rheumatology, University of Bristol, Avon
                     Orthopaedic Centre, Southmead Hospital, BS10 5NB, Bristol,
                     UK.
SOURCE:              MATRIX BIOLOGY, (2003 May) 22 (3) 267-78.
                     Journal code: 9432592. ISSN: 0945-053X.
PUB. COUNTRY:        Germany: Germany, Federal Republic of
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE:          Entered STN: 20030711
                     Last Updated on STN: 20030808
AB     ***Cartilage***     ***oligomeric***     ***matrix***     ***protein***
     (COMP) is a pentameric glycoprotein present in cartilage, tendon and
     ligament. Fragments of the molecule are present in the diseased
     cartilage, synovial fluid and serum of patients with knee injuries,
     osteoarthritis and rheumatoid arthritis. Although COMP is a substrate for
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several matrix metalloproteinases (MMPs), the enzymes responsible for COMP degradation in vivo have yet to be identified. In this study we utilised well-established bovine cartilage culture models to examine IL-1alpha-stimulated COMP proteolysis in the presence and absence of MMP inhibitors. COMP was released from bovine nasal cartilage, in response to IL-1alpha, at an intermediate time between proteoglycans and type II ***collagen*** , when soluble MMP levels in the culture medium were undetectable. The major fragment of COMP released following IL-1alpha-stimulation migrated with an apparent molecular mass of approximately 110 kDa (Fragment-110) and co-migrated with both the major fragment present in human arthritic synovial fluid samples and the product of COMP cleavage by ***purified*** MMP-9. However, the broad-spectrum MMP and ADAM inhibitor BB94 only partially inhibited the formation of Fragment-110 and failed to inhibit COMP release significantly. Therefore the results of these studies indicate a role for proteinases other than MMPs in the degradation of COMP in bovine cartilage. It was further demonstrated that ***purified*** COMP was cleaved by ADAMTS-4, but not ADAMTS-1 or -5, to yield a fragment which co-migrated with Fragment-110. Therefore this is the first demonstration of COMP as a substrate for ADAMTS-4, although it remains to be determined whether this enzyme plays a role in COMP degradation in vivo.

L17 ANSWER 2 OF 2 MEDLINE on STN
ACCESSION NUMBER: 1998378148 MEDLINE
DOCUMENT NUMBER: 98378148 PubMed ID: 9714346
TITLE: Analysis of cartilage oligomeric matrix protein (COMP) in synovial fibroblasts and synovial fluids.
AUTHOR: Hummel K M; Neidhart M; Vilim V; Hauser N; Aicher W K; Gay R E; Gay S; Hauselmann H J
CORPORATE SOURCE: Center for Experimental Rheumatology, University Hospital, Zurich, Switzerland.
SOURCE: BRITISH JOURNAL OF RHEUMATOLOGY, (1998 Jul) 37 (7) 721-8. Journal code: 8302415. ISSN: 0263-7103.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199809
ENTRY DATE: Entered STN: 19980917
Last Updated on STN: 19980917
Entered Medline: 19980904

AB We investigated the expression of ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP) in normal and rheumatoid arthritis (RA) synovial fibroblasts. In situ hybridization (ISH) was conducted on synovial specimens from five RA patients applying specific probes for COMP or fibroblast ***collagen*** type I. ISH was combined with immunohistochemistry, applying antibodies to the macrophage marker CD68. Ribonuclease protection assay (RPA) and rapid amplification of 3'-cDNA ends (3'-RACE) were performed on total RNA from normal and RA synovial fibroblast cultures. Protein extracts from fibroblasts and culture supernatants were compared with synovial fluids and protein extracts from isolated chondrocytes by Western blot utilizing polyclonal and monoclonal antibodies (18-G3 mAb) to COMP. COMP mRNA was detected in fibroblasts of RA synovium by ISH, and in normal and RA synovial fibroblast cultures by RPA. 3'-RACE demonstrated sequence homology of chondrocyte and synovial fibroblast COMP along the coding sequence. COMP protein was detected in synovial fibroblasts and culture supernatants by immunoblot. Using polyclonal antibodies, the major portion of COMP from fibroblasts and culture supernatants was present as low-molecular-weight (LMW) bands, corresponding to those found in synovial fluids. These LMW COMP bands, however, were not detected in any of the cells or tissues tested using 18-G3 mAb. In protein extracts from chondrocytes and in COMP ***purified*** from cartilage, these LMW bands could not be detected. In conclusion, the data suggest that certain forms of COMP detected in synovial fluid are secreted from synovial fibroblasts and could be distinguished by specific mAbs from COMP secreted by chondrocytes.

=> d his

(FILE 'HOME' ENTERED AT 10:00:47 ON 13 OCT 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 10:01:08 ON 13 OCT 2003
L1 1106 S HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR (THROMBOSPO
L2 55314 S TRYPSIN (P) (CLEAV? OR DIGEST?)
L3 35722 S (50 KDA) OR (55 KDA) OR (62 KDA) OR (67 KDA)

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L4            0 S L2 (P) L3 (P) L1
L5       269998 S ELISA
L6         8257 S L5 (P) KIT
L7            3 S L1 (P) L6
L8            1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
L9          292 S L1 (P) HUMAN
L10           0 S L9 (P) L6
L11      515579 S (BIOLOGICAL MATRIX) OR (TREATED CARTILAGE) OR (BONE MATRIX) O
L12         249 S L1 (P) L11
L13          11 S L12 (P) COMPOSITION
L14           4 DUPLICATE REMOVE L13 (7 DUPLICATES REMOVED)
L15          10 S L12 (P) (PURIFIED)
L16           2 DUPLICATE REMOVE L15 (8 DUPLICATES REMOVED)
L17           2 S L16 NOT L14

=> s chondrocyte or (mesenchymal stem cell)
L18      51010 CHONDROCYTE OR (MESENCHYMAL STEM CELL)

=> s differentiation agent
L19        831 DIFFERENTIATION AGENT

=> s (vitamin d) or (retinoic acid)
L20     210357 (VITAMIN D) OR (RETINOIC ACID)

=> duplicate remove l12
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L12
L21           78 DUPLICATE REMOVE L12 (171 DUPLICATES REMOVED)

=> s l21 (p) l18
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L142 (P) L117'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L146 (P) L119'
L22          14 L21 (P) L18

=> s l22 not (l17 or l14)
L23          12 L22 NOT (L17 OR L14)

=> d l23 1-12 ibib abs

L23  ANSWER 1 OF 12     MEDLINE on STN
ACCESSION NUMBER:    2003346330     MEDLINE
DOCUMENT NUMBER:     22760698   PubMed ID: 12878157
TITLE:               Redifferentiation of dedifferentiated chondrocytes and
                     chondrogenesis of human bone marrow stromal cells via
                     chondrosphere formation with expression profiling by
                     large-scale cDNA analysis.
AUTHOR:              Imabayashi Hideaki; Mori Taisuke; Gojo Satoshi; Kiyono
                     Tohru; Sugiyama Tomoyasu; Irie Ryotaro; Isogai Takao; Hata
                     Jun-ichi; Toyama Yoshiaki; Umezawa Akihiro
CORPORATE SOURCE:    National Research Institute for Child Health and
                     Development, Tokyo 157-8535, Japan.
SOURCE:              EXPERIMENTAL CELL RESEARCH, (2003 Aug 1) 288 (1) 35-50.
                     Journal code: 0373226. ISSN: 0014-4827.
PUB. COUNTRY:        United States
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         200309
ENTRY DATE:          Entered STN: 20030725
                     Last Updated on STN: 20030925
                     Entered Medline: 20030924
AB   Characterization of dedifferentiated   ***chondrocytes***   (DECs) and
       ***mesenchymal***     ***stem***     ***cells***   capable of
     differentiating into   ***chondrocytes***   is of biological and clinical
     interest.  We isolated DECs and bone marrow stromal cells (BMSCs), H4-1
     and H3-4, and demonstrated that the cells started to produce extracellular
     matrices, such as type II   ***collagen***   and aggrecan, at an early
     stage of chondrosphere formation.  Furthermore, cDNA sequencing of cDNA
     libraries constricted by the oligocapping method was performed to analyze
     difference in mRNA expression profiling between DECs and marrow stromal
     cells.  Upon redifferentiation of DECs, cartilage-related extracellular
     matrix genes, such as those encoding leucine-rich small proteoglycans,
       ***cartilage***     ***oligomeric***     ***matrix***     ***protein***
     and chitinase 3-like 1 (cartilage glycoprotein-39), were highly expressed.
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Growth factors such as FGF7 and CTGF were detected at a high frequency in the growth stage of monolayer stromal cultures. By combining gene expression profile and flow cytometry, we demonstrated that isolated stromal cells, defined by CD34(-), c-kit(-), and CD140alpha(- or low), have chondrogenic potential. The newly established human mesenchymal cells with expression profiling provide a powerful model for a study of chondrogenic differentiation and further understanding of cartilage regeneration in the means of redifferentiated DECs and BMSCs.

L23 ANSWER 2 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2003243202 IN-PROCESS
DOCUMENT NUMBER: 22650296 PubMed ID: 12766479
TITLE: Apoptosis staining in cultured pseudoachondroplasia chondrocytes.
AUTHOR: Duke J; Montufar-Solis D; Underwood S; Lalani Z; Hecht J T
CORPORATE SOURCE: Department of Orthodontics, Dental Branch, The University of Texas Health Science Center at Houston.. Pauline.J.Duke@uth.tmc.edu
SOURCE: APOPTOSIS, (2003 Mar) 8 (2) 191-7. Journal code: 9712129. ISSN: 1360-8185.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20030528
Last Updated on STN: 20030528

AB Pseudoachondroplasia (PSACH) is a skeletal dysplasia caused by a mutation in ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP), a glycoprotein of normal cartilage matrix. PSACH ***chondrocytes*** have a distinctive phenotype with enlarged rER cisternae containing COMP, aggrecan, type IX ***collagen*** , and chaperone proteins. Ultrastructural studies suggested that this accumulation compromises cell function, hastening cell death, and consequently reducing the number of cells in the growth plate contributing to linear bone growth. Using the alginate bead system, we cultured control and PSACH ***chondrocytes*** for twenty weeks and one year to determine the effect of the mutation on size and number of cartilage nodules; and the presence of apoptotic cell death (TUNEL assay). At 20 weeks, beads containing PSACH or control ***chondrocytes*** did not differ in size and number of cartilage nodules or number of TUNEL-positive cells. After one year, nodule number, size and percent cartilage per bead were significantly less in PSACH nodules, and the number of cells staining positive for apoptosis was significantly greater than in controls (71.8% vs. 44.6%). The increase in apoptosis in PSACH nodules correlates with a decrease in growth of cartilage, supporting our hypothesis that death of damaged cells contributes to the growth plate defects in PSACH.

L23 ANSWER 3 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2002432171 MEDLINE
DOCUMENT NUMBER: 22176769 PubMed ID: 12189245
TITLE: Pseudoachondroplasia is caused through both intra- and extracellular pathogenic pathways.
AUTHOR: Dinser Robert; Zaucke Frank; Kreppel Florian; Hultenby Kjell; Kochanek Stefan; Paulsson Mats; Maurer Patrik
CORPORATE SOURCE: Institute for Biochemistry II, University of Cologne, Cologne, Germany.. robert.dinser@uniklinik-saarland.de
SOURCE: JOURNAL OF CLINICAL INVESTIGATION, (2002 Aug) 110 (4) 505-13. Journal code: 7802877. ISSN: 0021-9738.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200209
ENTRY DATE: Entered STN: 20020822
Last Updated on STN: 20020907
Entered Medline: 20020906

AB Pseudoachondroplasia is a dominantly inherited chondrodysplasia associated with mutations in ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP). Investigations into the pathogenesis of pseudoachondroplasia are hampered by its rarity. We developed a cell culture model by expressing mutant COMP in bovine primary ***chondrocytes*** using a gutless adenoviral vector. We show that mutant COMP exerts its deleterious effects through both intra- and extracellular pathogenic pathways. Overexpression of mutant COMP led to a dose-dependent decrease in cellular viability. The secretion of mutant COMP was markedly delayed, presumably due to a prolonged association with

chaperones in the endoplasmic reticulum (ER). The ECM lacked organized ***collagen*** fibers and showed amorphous aggregates formed by mutant COMP. Thus, pseudoachondroplasia appears to be an ER storage disease, most likely caused by improper folding of mutant COMP. The growth failure of affected patients may be explained by an increased cell death of growth-plate ***chondrocytes*** . Dominant interference of the mutant protein on ***collagen*** fiber assembly could contribute to the observed failure of the ECM of cartilage and tendons.

L23 ANSWER 4 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2002092991 MEDLINE
DOCUMENT NUMBER: 21656885 PubMed ID: 11798989
TITLE: Autologous chondrocyte transplantation. Biomechanics and long-term durability.
AUTHOR: Peterson Lars; Brittberg Mats; Kiviranta Illka; Akerlund Evy Lundgren; Lindahl Anders
CORPORATE SOURCE: Gothenburg Medical Center, Gothenburg University, Gothenburg, Sweden.
SOURCE: AMERICAN JOURNAL OF SPORTS MEDICINE, (2002 Jan-Feb) 30 (1) 2-12.
Journal code: 7609541. ISSN: 0363-5465.
PUB. COUNTRY: United States
DOCUMENT TYPE: (EVALUATION STUDIES)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200203
ENTRY DATE: Entered STN: 20020202
Last Updated on STN: 20020302
Entered Medline: 20020301

AB We evaluated the durability of autologous ***chondrocyte*** transplantation grafts in 61 patients treated for isolated cartilage defects on the femoral condyle or the patella and followed up for a mean of 7.4 years (range, 5 to 11). Durability was determined by comparing the clinical status at the long-term follow-up with that found 2 years after the transplantation. After 2 years, 50 of the 61 patients had good or excellent clinical results, and 51 of 61 had good or excellent results at 5 to 11 years later. Grafted areas from 11 of the patients were evaluated with an electromechanical indentation probe during a second-look arthroscopy procedure (mean follow-up, 54.3 months; range, 33 to 84); stiffness measurements were 90% or more of those of normal cartilage in eight patients. Eight of twelve 2-mm biopsy samples taken from these patients showed hyaline characteristics with safranin O staining and a homogeneous appearance in polarized light. Three fibrous and eight hyaline biopsy specimens stained positive to aggrecan and to ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** . Hyaline-like specimens stained positive for type II ***collagen*** , and fibrous, for type I ***collagen*** . Autologous ***chondrocyte*** transplantation for the treatment of articular cartilage injuries has a durable outcome for as long as 11 years.

L23 ANSWER 5 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2002026731 MEDLINE
DOCUMENT NUMBER: 21363816 PubMed ID: 11470401
TITLE: Calreticulin, PDI, Grp94 and BiP chaperone proteins are associated with retained COMP in pseudoachondroplasia chondrocytes.
AUTHOR: Hecht J T; Hayes E; Snuggs M; Decker G; Montufar-Solis D; Doege K; Mwalle F; Poole R; Stevens J; Duke P J
CORPORATE SOURCE: University of Texas Medical School at Houston, Department of Pediatrics, P.O. Box 20708, Houston, TX 77225-0708, USA.. jacqueline.t.hecht@uth.tmc.edu
SOURCE: MATRIX BIOLOGY, (2001 Jul) 20 (4) 251-62.
Journal code: 9432592. ISSN: 0945-053X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Space Life Sciences
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20020121
Last Updated on STN: 20020131
Entered Medline: 20011207

AB ***Cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP), a large pentameric glycoprotein and member of the thrombospondin (TSP) group of extracellular proteins, is found in the territorial matrix surrounding ***chondrocytes*** . More than 50 unique COMP mutations have been identified as causing two skeletal dysplasias:

pseudoachondroplasia (PSACH), and multiple epiphyseal dysplasia (EDM1). Recent studies suggest that calcium-binding and calcium-induced protein folding differ between wild type and mutant proteins, and abnormal processing of the mutant COMP protein contributes to the characteristic enlarged lamellar appearing rER cisternae in PSACH and EDMI ***chondrocytes*** in vivo and in vitro. Towards the goal of delineating the pathogenesis of PSACH and EDM1, in-vivo PSACH growth plate and in-vitro PSACH ***chondrocytes*** cultured in alginate beads were examined to identify and localize the chaperone proteins participating in the processing of the retained extracellular matrix proteins in the PSACH rER. Aggrecan was localized to both the rER cisternae and matrix while COMP and type IX ***collagen*** were only found in the rER. Type II ***collagen*** was solely found in the ECM suggesting that it is processed and transported differently from other retained ECM proteins. Five chaperone proteins: BiP (Grp78); calreticulin (CRT); protein disulfide (PDI); ERp72; and Grp94, demonstrated immunoreactivity in the enlarged PSACH cisternae and the short rER channels of ***chondrocytes*** from both in-vivo and in-vitro samples. The chaperone proteins cluster around the electron dense material within the enlarged rER cisternae. CRT, PDI and GRP94 AB-gold particles appear to be closely associated with COMP. Immunoprecipitation and Western blot, and Fluorescence Resonance Energy Transfer (FRET) analyses indicate that CRT, PDI and GRP94 are in close proximity to normal and mutant COMP and BiP to mutant COMP. These results suggest that these proteins play a role in the processing and transport of wild type COMP in normal ***chondrocytes*** and in the retention of mutant COMP in PSACH ***chondrocytes*** .

L23 ANSWER 6 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2001640896 MEDLINE
DOCUMENT NUMBER: 21550102 PubMed ID: 11691584
TITLE: Selective intracellular retention of extracellular matrix proteins and chaperones associated with pseudoachondroplasia.
AUTHOR: Vranka J; Mokashi A; Keene D R; Tufa S; Corson G; Sussman M; Horton W A; Maddox K; Sakai L; Bachinger H P
CORPORATE SOURCE: Research Department, Shriners Hospital for Children, Portland, OR 97201, USA.
CONTRACT NUMBER: AR45582 (NIAMS)
SOURCE: MATRIX BIOLOGY, (2001 Nov) 20 (7) 439-50.
Journal code: 9432592. ISSN: 0945-053X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20011107
Last Updated on STN: 20020205
Entered Medline: 20020204

AB Mutations in the ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP) gene result in pseudoachondroplasia (PSACH), which is a chondrodysplasia characterized by early-onset osteoarthritis and short stature. COMP is a secreted pentameric glycoprotein that belongs to the thrombospondin family of proteins. We have identified a novel missense mutation which substitutes a glycine for an aspartic acid residue in the thrombospondin (TSP) type 3 calcium-binding domain of COMP in a patient diagnosed with PSACH. Immunohistochemistry and immunoelectron microscopy both show abnormal retention of COMP within characteristically enlarged rER inclusions of PSACH ***chondrocytes*** , as well as retention of fibromodulin, decorin and types IX, XI and XII ***collagen*** . Aggrecan and types II and VI ***collagen*** were not retained intracellularly within the same cells. In addition to selective extracellular matrix components, the chaperones HSP47, protein disulfide isomerase (PDI) and calnexin were localized at elevated levels within the rER vesicles of PSACH ***chondrocytes*** , suggesting that they may play a role in the cellular retention of mutant COMP molecules. Whether the aberrant rER inclusions in PSACH ***chondrocytes*** are a direct consequence of chaperone-mediated retention of mutant COMP or are otherwise due to selective intracellular protein interactions, which may in turn lead to aggregation within the rER, is unclear. However, our data demonstrate that retention of mutant COMP molecules results in the selective retention of ECM molecules and molecular chaperones, indicating the existence of distinct secretory pathways or ER-sorting mechanisms for matrix molecules, a process mediated by their association with various molecular chaperones.

L23 ANSWER 7 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2001439865 MEDLINE

DOCUMENT NUMBER: 21378166 PubMed ID: 11485547
TITLE: ***Cartilag*** ***oligomeric*** ***matrix*** ***protein*** (COMP) and ***collagen*** IX are sensitive markers for the differentiation state of articular primary ***chondrocytes*** .
AUTHOR: Zaucke F; Dinser R; Maurer P; Paulsson M
CORPORATE SOURCE: Institute for Biochemistry II, Medical Faculty, University of Cologne, Joseph-Stelzmann-Strasse 52, D-50931 Cologne, Germany.. frank.zaucke@uni-koeln.de
SOURCE: BIOCHEMICAL JOURNAL, (2001 Aug 15) 358 (Pt 1) 17-24. Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200109
ENTRY DATE: Entered STN: 20010924
Last Updated on STN: 20010924
Entered Medline: 20010920

AB Primary ***chondrocytes*** dedifferentiate in serial monolayer with respect to their morphological and biosynthetic phenotype. They change from a round to a flattened fibroblast-like shape, and ***collagen*** I is secreted instead of the cartilage-specific ***collagen*** II. We analysed in detail the time course of dedifferentiation of mature bovine articular ***chondrocytes*** in monolayer for up to 32 weeks. Assessment of RNA expression by reverse transcription-PCR led to the identification of two novel phenotypical markers, the ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP) and ***collagen*** IX, which are down-regulated faster than the widely accepted marker, ***collagen*** II. The different kinetics of COMP and ***collagen*** expression suggest differential regulation at the level of transcription. Immunostaining and metabolic labelling experiments confirmed the switch in the ***collagen*** expression pattern and the rapid down-regulation of de novo synthesis of COMP and ***collagen*** IX. Culture of ***chondrocytes*** in a three-dimensional matrix is known to stabilize the chondrocytic phenotype. We maintained cells for up to 28 weeks in an alginate bead system, which prevented dedifferentiation and led to a stabilization of ***collagen*** and COMP expression. Immunohistochemical analysis of the alginate beads revealed a similar distribution of matrix proteins to that found in vivo. ***Chondrocytes*** were transferred after a variable length of monolayer culture into the alginate matrix and the potential for redifferentiation was investigated. The re-expression of COMP and ***collagen*** IX was differentially regulated. The expression of COMP was re-induced within days after transfer into the three-dimensional matrix, while the expression of ***collagen*** IX was irreversibly down-regulated. In summary, these results demonstrate that the potential for redifferentiation decreases with increasing length of monolayer culture and show that the alginate bead system represents an attractive in vitro model to study the ***chondrocyte*** de- and re-differentiation processes, as well as extracellular matrix assembly.

L23 ANSWER 8 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2001431622 MEDLINE
DOCUMENT NUMBER: 21372013 PubMed ID: 11478845
TITLE: Chondrogenic differentiation of mesenchymal stem cells from bone marrow: differentiation-dependent gene expression of matrix components.
AUTHOR: Barry F; Boynton R E; Liu B; Murphy J M
CORPORATE SOURCE: Osiris Therapeutics, Inc., 2001 Aliceanna Street, Baltimore, Maryland 21231, USA.. fbarry@osiristx.com
SOURCE: EXPERIMENTAL CELL RESEARCH, (2001 Aug 15) 268 (2) 189-200. Journal code: 0373226. ISSN: 0014-4827.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200109
ENTRY DATE: Entered STN: 20010924
Last Updated on STN: 20010924
Entered Medline: 20010920

AB Transforming growth factor (TGF)-beta-induced chondrogenesis of ***mesenchymal*** ***stem*** ***cells*** derived from bone marrow involves the rapid deposition of a cartilage-specific extracellular matrix. The sequential events in this pathway leading from the undifferentiated stem cell to a mature ***chondrocyte*** were investigated by analysis of key matrix elements. Differentiation was

rapidly induced in cells cultured in the presence of TGF-beta 3 or -beta 2 and was accompanied by the early expression of fibromodulin a ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** . An increase in aggrecan and versican core protein synthesis defined an intermediate stage, which also involved the small leucine-rich proteoglycans decorin and biglycan. This was followed by the appearance of type II ***collagen*** and chondroadherin. The pathway was also characterized by the appearance of type X ***collagen*** , usually associated with hypertrophic cartilage. There was also a change in the pattern of sulfation of chondroitin sulfate, with a progressive increase in the proportion of 6-sulfated species. The major proportion of newly synthesized glycosaminoglycan was part of an aggregating proteoglycan network. These data allow us to define the phenotype of the differentiated cell and to understand in greater detail the sequential process of matrix assembly.

L23 ANSWER 9 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2001349628 MEDLINE
DOCUMENT NUMBER: 21305865 PubMed ID: 11412822
TITLE: Cartilage and bone biological markers in the synovial fluid of osteoarthritic patients after hyaluronan injections in the knee.
AUTHOR: Herrero-Beaumont G; Guerrero R; Sanchez-Pernaute O; Acebes C; Palacios I; Mas S; Rodriguez I; Egido J; Vivanco F
CORPORATE SOURCE: Inflammation Research Unit, Fundacion Jimenez Diaz, Avda. Reyes Catolicos 2, 28040 Madrid, Spain.. gherrero@fjd.es
SOURCE: CLINICA CHIMICA ACTA, (2001 Jun) 308 (1-2) 107-15. Journal code: 1302422. ISSN: 0009-8981.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: (CLINICAL TRIAL) Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200107
ENTRY DATE: Entered STN: 20010730 Last Updated on STN: 20010730 Entered Medline: 20010726
AB OBJECTIVE: To evaluate synovial fluid levels of cartilage and bone biological markers after repetitive intra-articular injections of sodium hyaluronate (HA) in knee osteoarthritis (OA) patients. METHODS: Twenty patients with knee OA were evaluated before and after 5 weekly injections of HA. To study cartilage and bone biological markers, synovial fluid and urine samples were collected simultaneously with the first (FI=week 0) and before the last injection (LI=week 4) of HA. Not commercially available markers (***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP), proteoglycan monomers and cyanogen bromide peptide 11 of the type II ***collagen*** chains (alpha (II) CA11B)) were determined by an indirect inhibition ELISA developed and standardized in our laboratory. RESULTS: We found a significant reduction in levels of proteoglycan monomers (30+/-16 vs. 22+/-10 microg/ml, p<0.05), an increase in COMP concentration (2.9+/-0.9 vs. 3.6+/-0.9 microg/ml, p<0.05) and osteocalcin (BGP) levels (8.7+/-8 vs. 11.9+/-9 ng/ml, p<0.05). No significant changes were observed in the levels of alpha (II)CB11B), metalloproteinase-1 (MMP-1) or pyridinium cross-link/creatinine (Pyr/Cr). CONCLUSIONS: HA could elicit an indirect response on the cartilage and bone metabolism due to the increased overuse of the joint caused by the analgesic effect of HA. However, a direct HA action on the metabolism of ***chondrocytes*** must not be ruled out.

L23 ANSWER 10 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2000122597 MEDLINE
DOCUMENT NUMBER: 20122597 PubMed ID: 10655510
TITLE: A mutation in the alpha 3 chain of type IX collagen causes autosomal dominant multiple epiphyseal dysplasia with mild myopathy.
AUTHOR: Bonnemann C G; Cox G F; Shapiro F; Wu J J; Feener C A; Thompson T G; Anthony D C; Eyre D R; Darras B T; Kunkel L M
CORPORATE SOURCE: Department of Medicine (Genetics), Children's Hospital, Boston, MA 02115, USA.
CONTRACT NUMBER: P30-HD18655 (NICHD)
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (2000 Feb 1) 97 (3) 1212-7. Journal code: 7505876. ISSN: 0027-8424.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20000314
Last Updated on STN: 20000314
Entered Medline: 20000302

AB Multiple epiphyseal dysplasia (MED) is a degenerative cartilage condition shown in some cases to be caused by mutations in genes encoding ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** or type IX ***collagen*** . We studied a family with autosomal dominant MED affecting predominantly the knee joints and a mild proximal myopathy. Genetic linkage to the COL9A3 locus on chromosome 20q13.3 was established with a peak log(10) odds ratio for linkage score of 3.87 for markers D20S93 and D20S164. Reverse transcription-PCR performed on the muscle biopsy revealed aberrant mRNA lacking exon 3, which predicted a protein lacking 12 amino acids from the COL3 domain of alpha3(IX) ***collagen*** . Direct sequencing of genomic DNA confirmed the presence of a splice acceptor mutation in intron 2 of the COL9A3 gene (intervening sequence 2, G-A, -1) only in affected family members. By electron microscopy, ***chondrocytes*** from epiphyseal cartilage exhibited dilated rough endoplasmic reticulum containing linear lamellae of alternating electron-dense and electron-lucent material, reflecting abnormal processing of mutant protein. Type IX ***collagen*** chains appeared normal in size and quantity but showed defective cross-linking by Western blotting. The novel phenotype of MED and mild myopathy is likely caused by a dominant-negative effect of the exon 3-skipping mutation in the COL9A3 gene. Patients with MED and a waddling gait but minimal radiographic hip involvement should be evaluated for a primary myopathy and a mutation in type IX ***collagen*** .

L23 ANSWER 11 OF 12 MEDLINE on STN
ACCESSION NUMBER: 1998049569 MEDLINE
DOCUMENT NUMBER: 98049569 PubMed ID: 9388247
TITLE: The fate of cartilage oligomeric matrix protein is determined by the cell type in the case of a novel mutation in pseudoachondroplasia.
AUTHOR: Maddox B K; Keene D R; Sakai L Y; Charbonneau N L; Morris N P; Ridgway C C; Boswell B A; Sussman M D; Horton W A; Bachinger H P; Hecht J T
CORPORATE SOURCE: Research Department, Shriners Hospital for Children, Portland, Oregon 97201, USA.
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1997 Dec 5) 272 (49) 30993-7.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199801
ENTRY DATE: Entered STN: 19980122
Last Updated on STN: 19990129
Entered Medline: 19980108

AB We have identified a novel missense mutation in a pseudoachondroplasia (PSACH) patient in one of the type III repeats of ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP). Enlarged lamellar rough endoplasmic reticulum vesicles were shown to contain accumulated COMP along with type IX ***collagen*** , a cartilage-specific component. COMP was secreted and assembled normally into the extracellular matrix of tendon, demonstrating that the accumulation of COMP in ***chondrocytes*** was a cell-specific phenomenon. We believe that the intracellular storage of COMP causes a nonspecific aggregation of cartilage-specific molecules and results in a cartilage matrix deficient in required structural components leading to impaired cartilage growth and maintenance. These data support a common pathogenetic mechanism behind two clinically related chondrodysplasias, PSACH and multiple epiphyseal dysplasia.

L23 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:933360 CAPLUS
DOCUMENT NUMBER: 138:382725
TITLE: Effects of overexpression of membrane-bound transferrin-like protein (MTf) on chondrogenic differentiation in vitro
AUTHOR(S): Suardita, Ketut; Fujimoto, Katsumi; Oda, Ryo; Shimazu, Atsushi; Miyazaki, Kazuko; Kawamoto, Takeshi; Kato, Yukio
CORPORATE SOURCE: Graduate School of Biomedical Sciences, Departments of Dental and Medical Biochemistry, Hiroshima University,

Minami-ku, Hiroshima, 734-8553, Japan
SOURCE: Journal of Biological Chemistry (2002), 2 50), 48579-48586
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Membrane-bound transferrin-like protein (MTf) is expressed in parallel with the expression of cartilage-characteristic genes during differentiation of chondrocytes, and the MTf level is much higher in cartilage than in other tissues. To investigate the role of MTf in cartilage, we examd. the effects of growth factors on MTf expression in mouse prechondrogenic ATDC5 cells and the effect of MTf overexpression on differentiation of ATDC5 and mouse pluripotent mesenchymal C3H10T1/2 cells. In ATDC5 cultures, bone morphogenetic protein-2 and transforming growth factor-.beta. as well as insulin induced MTf mRNA expression when these peptides induced chondrogenic differentiation. Forced expression of rabbit MTf in ATDC5 cells induced aggrecan, type II collagen, matrilin-1, type X collagen mRNAs, and cell-shape changes from fibroblastic cells to spherical chondrocytes. Accordingly, the synthesis and accumulation of proteoglycans were higher in MTf-expressing cultures than in control cultures. These effects of MTf overexpression correlated with the MTf protein level on the cell surface and decreased in the presence of anti-MTf antibody. However, the aggrecan mRNA level in the ATDC5 cells overexpressing MTf was lower than that in wild type ATDC5 cells exposed to 10 .mu.g/mL insulin. MTf overexpression in C3H10T1/2 cells also induced aggrecan and/or type II collagen mRNA but not the spherical phenotype. These findings suggest that the expression of MTf on the cell surface facilitates the differentiation of prechondrogenic cells, although MTf overexpression alone seems to be insufficient to commit pluripotent mesenchymal cells to the chondrocyte lineage.
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 10:00:47 ON 13 OCT 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 10:01:08 ON 13 OCT 2003

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L1          1106 S HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR (THROMBOSPO
L2         55314 S TRYPSIN (P) (CLEAV? OR DIGEST?)
L3         35722 S (50 KDA) OR (55 KDA) OR (62 KDA) OR (67 KDA)
L4             0 S L2 (P) L3 (P) L1
L5        269998 S ELISA
L6          8257 S L5 (P) KIT
L7             3 S L1 (P) L6
L8             1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
L9           292 S L1 (P) HUMAN
L10            0 S L9 (P) L6
L11       515579 S (BIOLOGICAL MATRIX) OR (TREATED CARTILAGE) OR (BONE MATRIX) O
L12          249 S L1 (P) L11
L13           11 S L12 (P) COMPOSITION
L14            4 DUPLICATE REMOVE L13 (7 DUPLICATES REMOVED)
L15           10 S L12 (P) (PURIFIED)
L16            2 DUPLICATE REMOVE L15 (8 DUPLICATES REMOVED)
L17            2 S L16 NOT L14
L18        51010 S CHONDROCYTE OR (MESENCHYMAL STEM CELL)
L19          831 S DIFFERENTIATION AGENT
L20       210357 S (VITAMIN D) OR (RETINOIC ACID)
L21           78 DUPLICATE REMOVE L12 (171 DUPLICATES REMOVED)
L22           14 S L21 (P) L18
L23           12 S L22 NOT (L17 OR L14)

=> s l21 (p) (l19 or l20)
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L168 (P) '
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L172 (P) '
L24            0 L21 (P) (L19 OR L20)

=> d his

(FILE 'HOME' ENTERED AT 10:00:47 ON 13 OCT 2003)
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     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
     10:01:08 ON 13 OCT 2003
L1         1106 S HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR (THROMBOSPO
L2        55314 S TRYPSIN (P) (CLEAV? OR DIGEST?)
L3        35722 S (50 KDA) OR (55 KDA) OR (62 KDA) OR (67 KDA)
L4            0 S L2 (P) L3 (P) L1
L5       269998 S ELISA
L6         8257 S L5 (P) KIT
L7            3 S L1 (P) L6
L8            1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
L9          292 S L1 (P) HUMAN
L10           0 S L9 (P) L6
L11      515579 S (BIOLOGICAL MATRIX) OR (TREATED CARTILAGE) OR (BONE MATRIX) O
L12         249 S L1 (P) L11
L13          11 S L12 (P) COMPOSITION
L14           4 DUPLICATE REMOVE L13 (7 DUPLICATES REMOVED)
L15          10 S L12 (P) (PURIFIED)
L16           2 DUPLICATE REMOVE L15 (8 DUPLICATES REMOVED)
L17           2 S L16 NOT L14
L18       51010 S CHONDROCYTE OR (MESENCHYMAL STEM CELL)
L19         831 S DIFFERENTIATION AGENT
L20      210357 S (VITAMIN D) OR (RETINOIC ACID)
L21          78 DUPLICATE REMOVE L12 (171 DUPLICATES REMOVED)
L22          14 S L21 (P) L18
L23          12 S L22 NOT (L17 OR L14)
L24           0 S L21 (P) (L19 OR L20)

 => log y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
 FULL ESTIMATED COST                                  108.81     109.02

 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
 CA SUBSCRIBER PRICE                                   -0.65      -0.65

 STN INTERNATIONAL LOGOFF AT 10:17:31 ON 13 OCT 2003
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FILE 'MEDLINE' ENTERED AT 10:31:5   N 13 OCT 2003

FILE 'CAPLUS' ENTERED AT 10:31:56 ON 13 OCT 2003
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FILE 'EMBASE' ENTERED AT 10:31:56 ON 13 OCT 2003
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FILE 'SCISEARCH' ENTERED AT 10:31:56 ON 13 OCT 2003
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FILE 'AGRICOLA' ENTERED AT 10:31:56 ON 13 OCT 2003

=> s hcomp or (cartilage oligomeric matrix protein) or thromospondin-5
L1        1097 HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR THROMOSPONDIN-
               5

=> s chen hui/au
L2         672 CHEN HUI/AU

=> s lawler john/au
L3          13 LAWLER JOHN/AU

=> s l1 and (l2 or l3)
L4           7 L1 AND (L2 OR L3)

=> duplicate remove l4
DUPLICATE PREFERENCE IS 'CAPLUS, BIOSIS'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L4
L5             4 DUPLICATE REMOVE L4 (3 DUPLICATES REMOVED)

=> d l5 1-4 ibib abs

L5   ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2003 ACS on STN  DUPLICATE 1
ACCESSION NUMBER:         2001:79527  CAPLUS
DOCUMENT NUMBER:          134:205377
TITLE:                      ***Cartilage***     ***oligomeric***
                            ***matrix***     ***protein***   (thrombospondin-5) is
                          expressed by human vascular smooth muscle cells
AUTHOR(S):                Riessen, Reimer; Fenchel, Michael;   ***Chen, Hui***
                          ; Axel, Dorothea I.; Karsch, Karl R.; Lawler, Jack
CORPORATE SOURCE:         Department of Medicine III (Cardiology), University of
                          Tubingen, Tubingen, 72076, Germany
SOURCE:                   Arteriosclerosis, Thrombosis, and Vascular Biology
                          (2001), 21(1), 47-54
                          CODEN: ATVBFA; ISSN: 1079-5642
PUBLISHER:                Lippincott Williams & Wilkins
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB     ***Cartilage***     ***oligomeric***     ***matrix***     ***protein***
     (COMP/thrombospondin [TSP]-5) belongs to the thrombospondin gene family
     and is an extracellular glycoprotein found predominantly in cartilage and
     tendon.  To date, there is limited evidence of COMP/TSP-5 expression
     outside of the skeletal system.  The aim of the present study was to
     investigate the expression of COMP/TSP-5 in cultured human vascular smooth
     muscle cells and human arteries.  COMP/TSP-5 mRNA and protein expression
     was detected in cultured human vascular smooth muscle cells with both
     Northern blotting and immunopptn.  Serum, as well as transforming growth
     factor (TGF)-/.beta.1 and TGF-/33, stimulated COMP/TSP-5 mRNA expression.
     COMP/TSP-5 was detected in normal as well as atherosclerotic and
     restenotic human arteries with immunohistochem.  The majority of
     COMP/TSP-5 was expressed in close proximity to vascular smooth muscle
     cells.  In vitro attachment assays demonstrated strong adhesion of smooth
     muscle cells to COMP/TSP-5- coated surfaces, with the majority of cells
     spreading and forming stress fibers.  In addn., COMP/TSP-5 supported the
     migration of smooth muscle cells in vitro.  The present study shows that
     COMP/TSP-5 is present in human arteries and may play a role in the
     adhesion and migration of vascular smooth muscle cells during
     vasculogenesis and in vascular disease settings such as atherosclerosis.
REFERENCE COUNT:          39    THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS
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RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2000:627777 CAPLUS
DOCUMENT NUMBER: 133:331101
TITLE: ***Cartilage*** ***oligomeric*** ***matrix*** ***protein*** is a calcium-binding protein, and a mutation in its type 3 repeats causes conformational changes
AUTHOR(S): ***Chen, Hui*** ; Deere, Michelle; Hecht, Jacqueline T.; Lawler, Jack
CORPORATE SOURCE: Division of Tumor Biology and Angiogenesis, Department of Pathology, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, 02215, USA
SOURCE: Journal of Biological Chemistry (2000), 275(34), 26538-26544
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mutations in residues in the type 3 calcium-binding repeats and C-terminal globular region of ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP) lead to two skeletal dysplasias, pseudoachondroplasia and multiple epiphyseal dysplasia. It has been hypothesized that these mutations cause COMP to misfold and to be retained in the endoplasmic reticulum. However, this hypothesis is not supported by previous reports that COMP, when purified in the presence of EDTA, shows no obvious difference in electron microscopic appearance in the presence or absence of calcium ions. Since this discrepancy may be due to the removal of calcium during purifn., we have expressed wild-type COMP and the most common mutant form found in pseudoachondroplasia, MUT3, using a mammalian expression system and have purified both proteins in the presence of calcium. Both proteins are expressed as pentamers. Direct calcium binding expts. demonstrate that wild-type COMP, when purified in the presence of calcium, is a calcium-binding protein. Rotary shadowing electron microscopy and limited trypsin digestion at various calcium concns. show that there are conformational changes assocd. with calcium binding to COMP. Whereas COMP exists in a more compact conformation in the presence of calcium, it shows a more extended conformation when calcium is removed. MUT3, with a single aspartic acid deletion in the type 3 repeats, binds less calcium and presents an intermediate conformation between the calcium-replete and calcium-depleted forms of COMP. In conclusion, we show that a single mutation in the type 3 repeats of COMP causes the mutant protein to misfold. Our data demonstrate the importance of calcium binding to the structure of COMP and provide a plausible explanation for the observation that mutations in the type 3 repeats and C-terminal globular region lead to pseudoachondroplasia.
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 1998:554609 CAPLUS
DOCUMENT NUMBER: 129:258910
TITLE: Characterization of ***cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP) in human normal and pseudoachondroplasia musculoskeletal tissues
AUTHOR(S): Hecht, Jacqueline T.; Deere, Michelle; Putnam, Elizabeth; Cole, William; Vertel, Barbara; ***Chen,*** *** Hui*** ; Lawler, Jack
CORPORATE SOURCE: Department of Pediatrics, University of Texas Medical School at Houston, Houston, TX, USA
SOURCE: Matrix Biology (1998), 17(4), 269-278
CODEN: MTBOEC; ISSN: 0945-053X
PUBLISHER: Gustav Fischer Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB ***Cartilage*** ***oligomeric*** ***matrix*** ***protein*** (COMP), the fifth member of the -thrombospondin gene family, is an extracellular matrix calcium-binding protein. The importance of COMP is underscored by the finding that mutations in COMP cause the human dwarfing condition, pseudoachondroplasia (PSACH). Here, we report the results of human tissue distribution and cell secretion studies of human COMP. COMP is expressed and secreted by cultured monolayer chondrocyte, tendon and ligament cells, and COMP secretion is not restricted to a differentiated chondrocyte phenotype. Whereas COMP is retained in the endoplasmic

reticulum that accumulates within PSACH chondrocytes in vivo, COMP is not retained intracellularly in [redacted] dedifferentiated PSACH chondr[redacted]tes in cultures. These results lend further support to the hypothesis that retention of COMP is related to the terminal PSACH chondrocyte phenotype, processing of proteins related to extracellular matrix formation, and maintenance in cartilage.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1996:56780 BIOSIS
DOCUMENT NUMBER: PREV199698628915
TITLE: Inhibition of angiogenesis by thrombospondin-2.
AUTHOR(S): Volpert, Olga V. (1); Tolsma, Sara S. (1); Pellerin, Sylvie; Feige, Jean-Jacques; ***Chen, Hui*** ; Mosher, Deane F.; Bouck, Noel (1)
CORPORATE SOURCE: (1) Dep. Microbiol-Immunol., Univ. Med. Sch., Chicago, IL USA
SOURCE: Biochemical and Biophysical Research Communications, (1995) Vol. 217, No. 1, pp. 326-332.
ISSN: 0006-291X.
DOCUMENT TYPE: Article
LANGUAGE: English
AB To assess the ability of proteins of the thrombospondin family to inhibit angiogenesis, recombinant murine thrombospondin-2, bovine thrombospondin-2/CISP and thrombospondin-5/COMP were purified and tested for ability to block the migration of capillary endothelial cells towards a variety of inducers and to inhibit neovascularization induced in the rat cornea. Both preparations of thrombospondin-2 were active inhibitors in vitro and in vivo whereas thrombospondin-5/COMP was inactive. These results define thrombospondin-2 as a newly identified naturally occurring inhibitor of angiogenesis and suggest that the properdin-like type 1 modules that it shares with antiangiogenic thrombospondin-1 and are missing in thrombospondin-5/COMP could contribute to this activity.

=> d his

(FILE 'HOME' ENTERED AT 10:31:29 ON 13 OCT 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 10:31:56 ON 13 OCT 2003
L1 1097 S HCOMP OR (CARTILAGE OLIGOMERIC MATRIX PROTEIN) OR THROMOSPOND
L2 672 S CHEN HUI/AU
L3 13 S LAWLER JOHN/AU
L4 7 S L1 AND (L2 OR L3)
L5 4 DUPLICATE REMOVE L4 (3 DUPLICATES REMOVED)

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	29.64	29.85
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CA SUBSCRIBER PRICE	-1.95	-1.95

STN INTERNATIONAL LOGOFF AT 10:34:17 ON 13 OCT 2003